The study evaluates the feasibility of an east corridor specifically aligned with the South Valley corridor. The route would make use of the former Milwaukee Railroad right of way, a county-owned corridor south of Sprague Avenue, extending from Argonne Road to Liberty Lake.

The study suggests a conceptual first phase HCT system. This first phase would have two elements: the first would be a central business district circulator system, and the second would be a line serving the eastern portion of the metropolitan region extending to Liberty Lake.

The central business district circulator would be about 2 miles in length and serve to connect principle retail, office, public, and county buildings, and the Spokane ~~coliseum~~ Arena north of the river.

The eastern line segment would begin at the Amtrak Station on Sprague Avenue and divert to the abandoned Milwaukee Railroad right of way near Division Street. The LRT line would be about 8 miles long, terminating at Liberty Lake as the easterly limit. It would make stops at major employment and retail centers along this route.

Analysis of Impact on Capacity/Demand

The timing of the light rail system is not clearly defined in the HCT study. The planning being done now is to establish the regional direction as to what needs to be done and how to accomplish it. If the light rail system were to be developed, it is projected to do little in reducing the demand or increasing the capacity on the north side arterials, due to its location. It may, in fact, increase demand by drawing trips to the CBD because of the light rail connection to the east.

Summary of Alternative Analysis on Demand/Capacity

The result when the above HOV component is in place and operational is as follows:

Demand Reduction

HOV Lanes 4.55 percent

Note: HOV lane reduction applicable to the northbound and southbound peak hour directional legs for Division Street intersections only.

Reduction applied to Division Street intersections within the limits of the HOV lane. Limits extend from the vicinity of the Spokane River to the Division Street/US 2 “Y.”

Percentage is based on the assumption that the establishment of the HOV lane will initially employ a two person minimum vehicle occupancy rate.

Bus Service 4.1 percent (applied systemwide)

Build Alternatives

Over the last eight years, government jurisdictions in Spokane County, through the SRTC, have analyzed various alternative routes for what was then called the North Spokane Freeway. Route alternatives have spanned the area between Government Way on the west edge of the city as the western-most route and Argonne Road in

the Spokane Valley as the eastern-most route (see Figure 2-1). Routes in between include Maple/Ash, Division, Hamilton/Perry, Market/Greene, and Havana. These served as the starting point for the evaluation of north/south transportation solutions in the 1985 *Regional Transportation Plan Update* (TPU). The result of the study was that there is a need for an NSF between Division Street and Havana Street in the northeast quadrant of Spokane. The other corridors were eliminated through the public involvement process used during the presentation of the report's findings. The primary reasons for their elimination are outlined in Appendix C.

The *North Spokane Transportation Study: Long Term Transportation Improvements Study* was completed in 1988, and provided a relatively detailed evaluation of three route alternatives in the northeastern quadrant of Spokane. These included Hamilton/Perry, Market/Greene, and Havana. One conclusion of the 1988 study is that completion of an environmental impact statement (EIS) should be the next step in the process.

This EIS builds on the findings of the 1988 study. The Interdisciplinary Team (IDT) elected to take the recommendations of the 1988 study and focus the process on the Hamilton/Perry, Market/Greene, and Havana corridors.

It must be pointed out that the following build alternatives will also contain all the elements previously discussed, including the roadway improvements identified under the no-build alternative, along with the TSM and Mass Transit system components. The combination of the effects of these programs and the new capacity provided by the NSF would serve as a complete transportation system to better fulfill the Spokane area transportation needs. Table 2-10 shows the relative improvement that would be expected when the components identified above are all in place and functioning as a complete system.

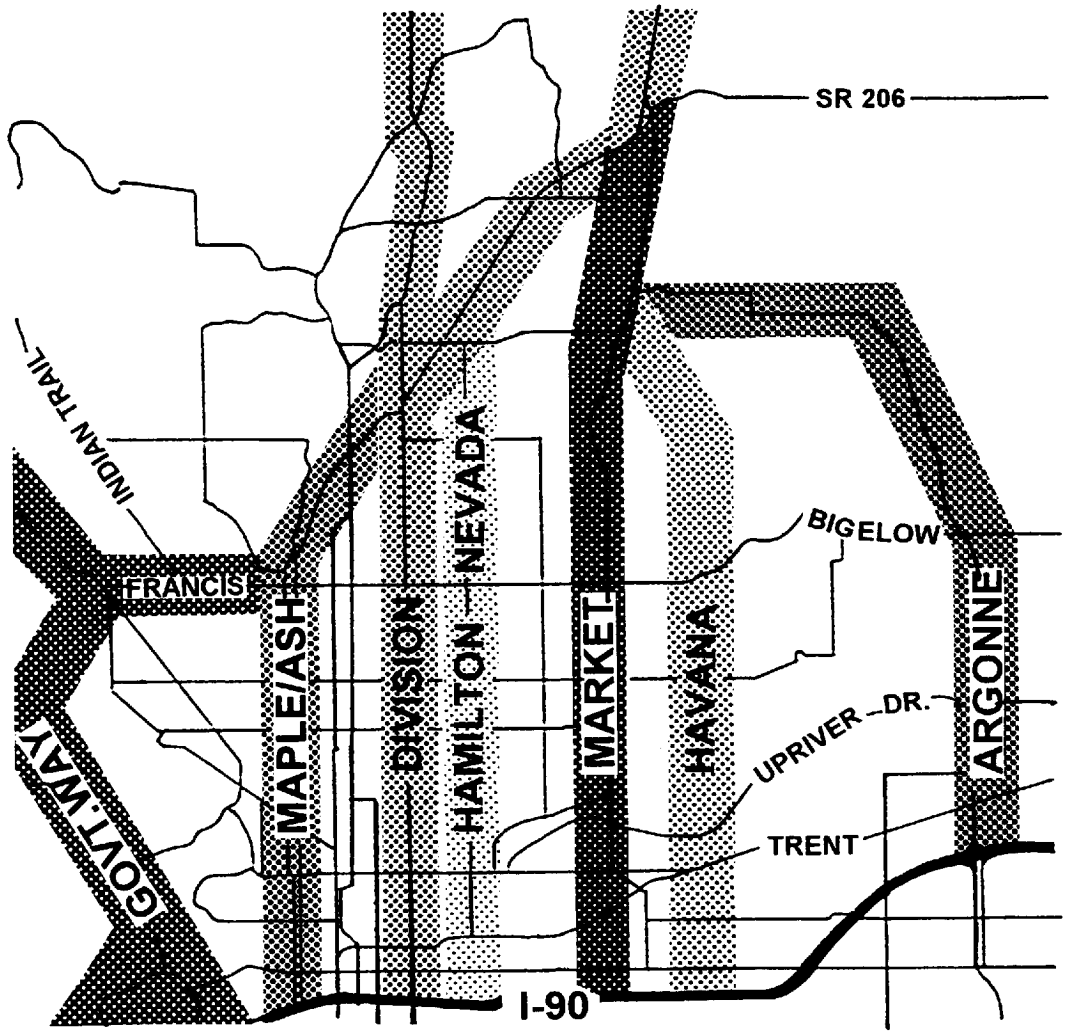
Alternative 4 — Improvements to Existing Facilities

Improvements to existing facilities would include development of new two-way left-turn lanes, major intersection modifications (such as right-turn lanes), and widening of roadways to accommodate new lanes. All these improvements would be used to create more system capacity and serve as an alternative solution to building a complete new facility.

Analysis of Impact on Capacity/Demand

Traffic destined for the north Spokane area will greatly overload the existing arterial system by 2010, and inundate it by 2020. This non-CBD oriented traffic will be a large percentage of the projected traffic volumes on the NSF (estimated at 40 to 50 percent of NSF traffic in 2020).

To carry the increased traffic successfully (assuming no more congestion than with the NSF in place), improvements on existing arterials would require additional lanes on most north-south arterials, with major acquisition of developed right of way. Because of the nature of the traffic assignment process, where the relationship of traffic demands to capacities determines where volumes will be assigned, it is difficult to determine exactly what improvements are needed on specific arterials if the NSF is not built.



AUBREY L. WHITE PARKWAY / GOVERNMENT WAY

MAPLE / ASH COUPLET — COUNTRY HOMES BOULEVARD

DIVISION STREET

HAMILTON STREET

FREYA / GREENE STREET / MARKET

HAVANA ARTERIAL

ARGONNE / BRUCE / NORTHSIDE ARTERIAL

Corridors Considered During 1985 Transportation Plan Update
Figure 2-1

In 2020, the NSF will have an average northbound traffic volume between I-90 and US 2 of 4,000 vehicles per hour (VPH) in the p.m. peak hour, based on traffic assignments. If this volume were to be divided among typical arterials with signalized intersections, it would require a minimum of six lanes of additional capacity. Since an equivalent volume would travel in the opposite direction in the a.m. peak hour, an additional aggregate six lanes would be required southbound, for a total of 12 lanes of capacity. Thus, a two-lane addition would be required on six arterials, or four lanes on three arterials, depending on how the additional volumes would be distributed.

In 2020, without the freeway, Division Street will carry an additional volume of only 400 VPH, with all of the currently proposed improvements on Division in place (Ruby couplet). This is because 2.3 miles of Division will be operating at Level of Service (LOS) F. At this LOS, traffic growth is discouraged and the assignment process directs it elsewhere. With the freeway in place, the additional 400 VPH on Division will require an additional lane for probably 50 percent of its length. Thus, the additional 12 lanes required, spread out among different arterials, is likely to be increased, depending on the desired LOS.

Alternative 5 — Hamilton/Perry

(See Figures S-2 and S-3 in the Summary section of this EIS.) The Hamilton/Perry alignment is a new facility that begins at the existing Liberty Park interchange (commonly known as the Hamilton Street interchange) on new ramps parallel to the James Keefe Bridge, and follows the Spokane River on the south. In the vicinity of Mission Avenue, the roadway swings north and crosses the river. Once across the river, the roadway curves to the west and lies just east of Gonzaga Prep High School, where it heads north along the west side of Perry Street. North of Francis Avenue, the freeway continues north past Lincoln Road, Magnesium Road, and Hawthorne Road. Just north of Hawthorne Road, the alignment curves to the west and meets US 2. Just west of US 2, the freeway curves to the north and crosses US 395 south of Hastings Road. The freeway then proceeds north until approximately the south end of the new bridge over the Little Spokane River.

Alternative 6 — Market/Greene (Preferred Alternative)

(See Figures S-2 and S-3 in the Summary section of this EIS.) This new facility begins with a new interchange connection with I-90 at about Thor/Freya Street. The freeway goes north along the same line as Greene Street. After crossing the Spokane River, it continues north past Wellesley Avenue and Francis Avenue, to Lincoln Road. The new roadway basically follows the vacant Burlington Northern Railroad property just east of Hillyard. Starting at approximately Lincoln Road, two separate alignment options were developed to go around the Kaiser Aluminum and Chemical Company (KACC) and Bonneville Power Administration (BPA) facilities. These two options are described later in this section.

Alternative 7 — Havana

(See Figures S-2 and S-3 in the Summary section of this EIS.) This new facility's interchange with I-90 is at the same location as in the Market/Greene Alternative. The freeway alignment then turns to the east as it goes north. At about the Trent Avenue intersection it turns back to the north and crosses the Spokane River. After crossing the river, the freeway continues north to about Frederick

Avenue, where it begins to climb, turning to the west to go up and around the base of Beacon Hill. It is at this point that the freeway turns west to begin negotiating Beacon Hill. After going over Minnehaha Park, it again turns to the north and follows the eastern edge of the developed portion of Esmeralda Golf Course. Once past the golf course, the alignment turns and proceeds north until just past Francis Avenue, where it begins to sweep to the west against the base of the hill.

Build Aspects Common to Both Alternative 6 and Alternative 7

Northern Connection Options

The following options are connection routes from approximately Lincoln Road to US 2 and US 395. These options apply to both the Market/Greene and Havana Alternatives.

Option A — North Connection (Preferred Option)

Under this alignment, the freeway turns to the north at approximately Gerlach Road. It continues north until the vicinity of Hawthorne, where it begins to curve in a northwesterly direction. The new roadway crosses US 2 just south of Farwell Road. It then proceeds in the same direction until it approaches US 395 where it begins turning north. Just southwest of the Wandermere Golf Course, the new roadway connects at the south end of the new US 395 bridge over the Little Spokane River.

Option B — South Connection

From just north of Lincoln Road, the freeway continues in a northwesterly direction to US 2. The alignment passes to the south of the Kaiser Aluminum Plant and intersects US 2 in the vicinity of the existing Nevada Street intersection. From here, the route begins to swing to the north and crosses to the west side of US 395 just south of Hastings Road. It continues northward to connect to the new US 395 bridge over the Little Spokane River.

I-90/Collector Distributor (C/D) System (part of Preferred Alternative)

(See Figures S-2 and S-3 in the Summary section of this EIS.) Traffic projections for the year 2020, with the NSF connected directly to I-90, show traffic in the section of I-90 between Liberty Park Interchange and Sprague Avenue interchange increasing from the existing 90,000 vehicles per day to over 196,000 vehicles per day. This is ~~Table 2-4 shows this to be~~ 36,000 vehicles more than average daily traffic projected for the 2020 no-build condition shown in Table 2-4.

Without considering the negative LOS impacts due to vehicle weaving movements, a 1700 vehicle per hour/per lane service flow equals about a LOS D. Based on this flow rate and the number of vehicles projected, there will be a need for an additional three through lanes, plus an auxiliary lane in each direction, along I-90 for efficient operation of the facility. This can be accomplished by adding lanes outside the existing I-90 roadway, or by constructing a C/D system. The construction of a C/D system has been determined to be the most efficient method to handle the projected traffic.

The C/D system will consist of three new lanes in each direction with an auxiliary lane between interchanges. It will be separated from mainline I-90 by a barrier/median and vertical alignment. Entrances and exits to the C/D roadway

would be limited to the Liberty Park, Thor/Freya, Sprague Avenue, and NSF interchanges.

Access at Liberty Park interchange would allow a direct route to and from existing 2nd and 3rd Avenues and Spokane's CBD.

The Sprague Avenue interchange connections will allow direct access to and from the proposed South Valley Arterial system.

The C/D will make the section of mainline I-90 between Liberty Park and Sprague Avenue interchanges essentially an expressway facility.

Alternative 8 -- Bypass/Beltway

The following is based on available information provided by Spokane County and Spokane Regional Transportation Council (SRTC).

The 1985 Transportation Plan Update (TPU) published by SRC (now called Spokane Regional Transportation Council, SRTC) identified a need for additional highway capacity outside the city of Spokane. This study also established a need for a North/South Freeway between Division Street and Havana Street.

Spokane County Planning Office further developed the bypass/beltway concept during the process of updating the North Metro Arterial Road Plan.

On July 1, 1993, the county was brought under the Growth Management Act (GMA) and work on updating the Arterial Road Plan was stopped. At that time the county road planning was incorporated into the GMA process. The GMA process integrates the land use and transportation elements with other GMA plan elements.

Although no definite plan has been established for a bypass/beltway configuration or alignment, the conceptual proposal provided by Spokane County, identifies a 2 to 4 lane non-limited access facility with a posted speed limit from 35 to 45 mph. A majority of this route would utilize existing roadways.

As a non-limited access route, zoning would govern access demand along the route. This influences the number and type of approaches to the bypass/beltway. Agriculturally zoned land would be expected to have relatively few approaches with lower usage. Conversely, the possibilities for commercially zoned property generating multiple approaches with potentially high usage, are very good. Intersections of minor arterials and residential streets would typically be controlled with stop signs. Intersections with principal arterials would most likely be signalized.

The West Plains - Northside - Millwood Bypass would provide additional capacity for trips that do not include the city center or north side of the city of Spokane. Some trips that would utilize I-90 to access north/south arterials such as Maple/Ash, Division and Market Streets would divert to the bypass.

East Leg Topography

The topography between Bigelow Gulch Rd. and I-90 is varied, traversing the valley floor north of I-90 to a crossing of the Spokane River located in the backwater from Upriver Dam. North of the Spokane River the route continues crossing the valley floor until it climbs 300 feet in elevation over approximately ¾ of a mile and then drops 300 feet over about an equal distance. This results in roadway grades of

approximately 7%. In addition, 3 rail lines require crossing between the Spokane River and I-90.

Northern Crossing

No roadway or right of way for highway use exists. Kaiser Aluminum has indicated it would oppose a highway passing just north of the plant. Hazardous materials will be encountered along this alignment.

Environmental and Cost Study

An environmental impact statement will be required for a project of this magnitude. Because there is no specific route or design, a cost estimate for constructing a bypass has not been completed. None of the proposed roadways that Spokane County has indicated for use as a bypass are adequate to accommodate significant additional traffic, especially truck traffic. This would require upgrading the existing 2 lane roads such as Bruce and Stoneman. Also, a significant portion of the northern leg would require new construction.

To function as a bypass an existing road will require improvements including building up the existing road bed, adding lanes, safety improvements (lighting, guardrail, and channelization) and improving substandard alignment. For any new alignment and improving substandard alignment additional right of way will also be required.

Origination and Destination Study - Based on the 1996 SRTC External Origin and Destination Study

Depending on the time of day there are between 2 and 5 times the demand to travel into the city or travel west of Spokane from the north than to travel to the valley and East Spokane. This traffic is now being carried on city streets.

External to Internal trips from I-90 and SR 290 destined north are as follows:

From I-90 west bound to north of Francis Avenue equals 5 % of the AM and 0 % of the PM trips.

From SR 290 E. Trent to north of Francis Avenue equals 3% of the AM and 7% of the PM trips.

Analysis of Impact on Capacity/Demand

SRTC completed the Northwest Spokane Bypass Study in July 1995. The study analyzed the northwest leg of the Bypass. The summary states the following:

> The Northwest Bypass, as proposed, is a significant transportation project. Considering SRTC modeling, the bypass would carry moderate traffic and provide modest congestion relief to a few major arterials in northwest Spokane. The bypass allows "through" trips between State Route 395, State Route 291 and west Interstate 90 to avoid downtown. On the negative side, the proposed roadway creates new congested intersections at State Route 291 and Indian Trail Road and increases congestion on State Route 2 at Hayford Road.

> Based on the model results, the bypass is an out-of direction movement for many north Spokane trips. If growth continues to expand to the fringe of northwest Spokane County (and Southern Stevens County), the bypass will become more heavily used. The bypass cannot be expected to mitigate negative transportation impacts of future growth and development on the north side. Just as in Suncrest, residents will desire to take the most direct route to their destination. This means SR 291, Indian Trail Road, the Maple Street/Ash Street couplet, and other northwest Spokane arterials will continue to experience increased traffic volumes. Phase One of the bypass does provide some needed east-west relief on Francis Avenue and Woodside Avenue. The West Plains portion of the bypass, however, presently suffers a significant flaw. Simply, it does not take enough people where they want to go. Changes in land use development decisions favoring the West Plains could mitigate this present flaw.

The study goes into less detail on the Stoneman-Argonne Road, an eastern leg of the bypass/beltway (see Addendum A of the study). It assumes some development of the North Spokane Freeway in the year 2010 which would be partly constructed from US 395 to Francis Avenue. The study concludes:

> Overall, transportation modeling indicates some benefits for a direct connection between the Stoneman Road-Argonne Road Project and the proposed Northwest Spokane Bypass. This is particularly true if interchange access is given to the North Spokane Freeway.

No traffic forecast information is provided once the North Spokane Freeway is fully operational.

Millwood Bypass

The eastern leg of the beltway must carry traffic around the city of Millwood. Argonne Road through Millwood carries a peak volume of 2,160. The 1996 intersection LOS for Trent and Argonne road is D and is projected to be at LOS F in 2020 without the NSF. The addition of the NSF will provide relief from future growth in traffic. Based on the 2020 traffic projections from SRTC the NSF reduces this volume by approximately 40%. The city of Millwood has raised concerns on county development and the associated traffic impacts on Argonne Rd through Millwood.

A roadway around Millwood will require construction of a 2 ¾ mile bypass to allow connection to I-90. There are no existing roads that could be utilized in this area.

4(f) impacts

Hutton Settlement has historic significance and is located one half mile east of Argonne Road at the toe of the hill encompassing almost a half square mile area. Assuming that direct impacts could be avoided, impacts from visual changes and noise could constitute constructive use per FHWA guidelines.

Interstate Access

All approvals for added or revised access are conditioned upon complying with all applicable rules and regulations. The FHWA approval constitutes a federal action, and as such, requires that National Environmental Policy Act (NEPA) procedures are followed. In addition a report covering FHWA's "six points" must be prepared and approved prior to accessing the interstate system.

Freight Mobility

Based on The North Spokane Truck Study published in July 1995 by the WSDOT, of the trucks traveling through Spokane, 54% travel Division St., 39% travel Market St., and 4% use Argonne Road. The Study states "It is clear that Spokane is the primary destination for truck traffic traveling through the Spokane area. More than half of the trucks traveling southbound on US 395 and US 2 are destined for an area of Spokane. Another 34% are destined for cities which require the use of I-90." Of these trucks destined for I-90, 30% more travel west of Division St. than those travelling east of Argonne Road. A Millwood Bypass connecting to University Rd. one mile east of Argonne Rd. will most likely reduce trucks using the bypass.

Growth Management

Transportation is a significant element in the planning process for establishing the Urban Growth Boundary under GMA. This element in the Final Environmental Impact Statement, Spokane County Interim Urban Growth Area (UGA) incorporates a major portion of the NSF in it's forecast transportation system for the year 2020. The segment is from US 395 to SR 290. The county commissioners are not held to the recommendation or alternatives made in the FEIS for the Interim UGA. They can make changes in the Final UGA but are required to develop a new EIS or supplement the current EIS.

Existing Average Daily Traffic (ADT)	2010 ADT	2020 ADT
90,000	140,000	160,000
Estimated ADTs are shown — Numbers were developed from raw p.m. peak values; p.m. peak numbers were estimated to equal 10 percent of ADT		

Traffic Projections for I-90 Liberty Park Interchange to Sprague Avenue Interchange Without the NSF
Table 2-4

	1990 (Existing)		2010 (No-Build)		2020 (N0-Build) No SVA		2020 (No-Build) With SVA	
	LOS		LOS		LOS		LOS	
Ramp Description	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
EB: Off to Hamilton	B	C	#	E	D	E	F	F
EB: On from Hamilton	C	C	#	F	F	F	F	F
EB: Off to Thor	C	C	#	F	F	F	F	F
EB: On from Thor	C	C	#	F	F	F	F	F
EB: Off to Sprague	C	C	#	F	C	F	D	F
EB: On from Sprague	C	D	#	C	D	E	C	D
WB: Off to Sprague	D	D	#	C	E	D	D	D
WB: On from Sprague	D	C	#	D	E	D	F	D
WB: Off to Thor	D	D	#	D	F	F	F	F
WB: On from Thor	D	C	#	F	F	F	F	F
WB: Off to Hamilton	D	C	#	E	F	F	F	F
WB: ON from Hamilton	C	C	#	E	E	E	E	E
# no data is available for 2010 AM Peak								

Level of Service Summary I-90 — Peak Conditions for the No Build Options
Table 2-5

~~Table 2-5 summarizes the 2010 ramp junction levels of service on this I-90 segment without the construction of the NSF. Table 2-4 shows that by the year 2010, forecasted I-90 mainline volumes exceed 1990 levels by over 50 percent. In the eastbound direction, most ramp junctions will operate at LOS F. In the westbound direction, two ramp junctions will operate at LOS F, with all others at LOS E or better.~~

~~By 2020, forecasted mainline volumes exceed 1990 levels by over 75 percent in the eastbound direction and 60 percent westbound. As a result, in 2020 I-90 freeway and ramp operation will degrade further from 2010 operating conditions, with most ramp junctions operating at LOS F in both the eastbound and westbound directions.~~The 2010 forecasted I-90 mainline volumes exceed 1990 by 50 percent. By 2020, the forecasted mainline volumes exceed 1990 levels by over 75 percent in the eastbound direction and 60 percent westbound. Table 2-5 summarizes the ramp junction LOS (no-build options) on the I-90 segment between the Liberty Park and Sprague Avenue Interchanges using these forecasted volumes. As shown, the LOS on the I-90 ramps will degrade an average LOS of C and D to mostly a LOS of F in the year 2020.

The C/D system serves two main functions:

- It provides access between the NSF and I-90, eliminating any local access ramp influences to the I-90 mainline, and serves regional north/south travel demand in the greater Spokane area.
- It provides some relief to the I-90 freeway between the Liberty Park and Sprague Avenue interchanges by forcing locally destined traffic off the mainline to a separate freeway network. This will relieve "over capacity" congestion on the mainline and accommodate the forecasted demand to and from the freeway in this area.

In 2010, the NSF provides some improvement along I-90, even though there is no direct connection. Construction staging (see Tables 2-16 and 2-17) will not provide a connection to I-90 in 2010. The NSF will connect to US 290 at Trent Avenue. Under these conditions, during the p.m. peak hour there is a 7 percent reduction in traffic using the I-90/Thor interchange. This is primarily a result of travelers using the surface streets to get to Trent Avenue and access the NSF.

With the construction of the C/D system along I-90 in 2020, freeway configurations in this section will change dramatically (see Table 2-6). ~~On I-90 itself, access and egress from the freeway will be limited to the C/D system only. Sufficient segment length will be created on I-90 to be defined as a basic freeway segment~~ The reduction in the number of ramp junctions on the mainline, and the diversion of traffic to the C/D system, will improve through traffic flow on I-90 to LOS ~~C~~ D or better.

~~The weaving areas on the C/D system, created by all the ramps feeding the C/D system, could cause queues to back up both on to I-90 mainline in the areas approaching the C/D access ramps and slow downs on the C/D itself. The weave areas on the C/D, with the design shown and analyzed, will operate at LOS F, with average speeds of approximately 40 km/h (25 mph). This design deficiency is recognized and will be further addressed before publication of the final EIS. Design ideas being considered include ramp modifications, i.e. splitting two-lane ramps, that will allow direct channeling of major movement traffic to exit/access ramps the traffic is destined for. This in turn will help eliminate those weaves from the congested areas.~~

The split ramp configuration of the NSF will allow traffic to go directly from I-90 to the NSF. Thus reducing the weave volumes which will in turn improve the LOS of the entire interchange system.

Although construction of the C/D system will not alleviate all the congestion forecast for the year 2020, it will eliminate most of the access points along this segment of I-90, and their effects on the mainline, by consolidating them to the C/D system. Without the C/D system in place, this segment of I-90 will experience similar "stop-and-go" peak period traffic congestion. All access and egress points along this section of I-90 will experience "over capacity" symptoms on the freeway and ramp junctions, causing traffic to spill over onto the local arterial network.

FREEWAY SEGMENT RAMP DESCRIPTION	LOS AM	LOS PM
I-90 EB West of Division	E	E
I-90 EB Off to Division	E	E
I-90 EB On From Division	*	*
I-90 EB East off Division	D	F
I-90 EB Auxiliary Lanes for Liberty Park	C	D
I-90 EB Off to Liberty Park & C/D	D	E
Split to Liberty Park	*	*
Split to C/D EB	C	D
I-90 Mainline WB after Liberty Park & C/D off	B	C
Liberty Park SB to EB	*	*
3rd Avenue EB	*	*
Liberty Park & 3rd Ave. ramps merge	*	*
Liberty Park & 3rd diverge to I-90 EB	B	D
Liberty park & 3rd diverge to C/D EB	C	D
I-90 Mainline EB after 3rd Avenue on	C	D
C/D EB begin of C/D after 3rd Ave. On	C	D
C/D EB Off to NSF NB	C	D
C/D EB after NSF off	C	C
C/D EB Off to Thor	B	B
C/D WB at Thor	B	C
C/D EB On From Thor	B	C
C/D WB after Thor on	C	C
NSF SB to EB (before the split)	C	C
NSF SB to WB onto I-90	*	*
I-90 Mainline WB After NSF	C	D
NSF SB to EB onto C/D	*	*
C/D WB ending of C/D	C	C
I-90 EB On From C/D	B	C
I-90 Mainline WB after C/D	D	D
SVA EB On From C/D	C	D
I-90 EB On From C/D	C	D
I-90 EB East of Sprague	D	D
I-90 EB Off to Broadway	*	*

FREEWAY SEGMENT RAMP DESCRIPTION	LOS AM	LOS PM
I-90 WB East of Broadway	F	E
I-90 WB On From Broadway	*	*
I-90 WB From Broadway	E	D
I-90 WB Off to Sprague	D	D
C/D WB On From SVA	E	D
C/D WB On From I-90 WB	D	C
NSF NB On From I-90 WB	*	*
I-90 WB after NSF off	C	B
C/D WB beginning of C/D	D	D
C/D WB Off to Thor & NSF	D	C
C/D WB After NSF off	D	C
C/D WB on From Thor	D	C
C/D WB West of Thor	E	D
NSF SB WB	C	C
Split to I-90 WB	C	C
Split to C/D WB	E	B
I-990 WB after NSF on	D	C
C/D WB after NSF on	E	B
C/D WB Off to 2nd Ave.	*	*
Liberty Park NB On From C/D	*	*
I-90 WB On From C/D	*	*
I-90 WB after C/D	E	D
I-90 WB On From Liberty Park	F	B
I-90 WB West of Liberty Park	D	D
I-90 WB after merge Aux. Lane	F	E
I-90 WB Off to Division	*	*
I-90 WB On From Division	F	F
I-90 WB West of division	F	F

2020 Operation of I-90 C/D System
Table 2-6

Analysis of Impact on Capacity/Demand Resulting From the Construction of a New Facility

Construction of a new facility produces new capacity that, in turn, accommodates trips that otherwise would use existing north side arterials. This results in lesser demand being placed on the local arterial system. Evaluation of future traffic assignments shows that the greatest potential of the NSF and its connectors is to function as a by-pass route for traffic originating in or destined for the northern suburbs of the city or beyond. Based on current demands, traffic on the NSF between Mission and Wellesley Avenues would have the following origins in the p.m. peak hour:

North	40 percent
East	29 percent
South	18 percent
West	13 percent

Directions are measured from the NSF, with the percentages based on the Market/Greene alignment. In the a.m. peak hour, the indicated percentages represent destinations rather than origins. These percentages ~~The numbers~~ support the statistics on growth and trip generation identified previously in this document.

For northbound movements from Mission Avenue in the p.m. peak hour, the percentages are as follows:

East	48 percent
South	30 percent
West	22 percent

Traffic assignments for the year 2010 show that the NSF will lose 40 percent of the northbound traffic between Mission and Francis Avenues at the Wellesley and Francis Interchanges. Sixty percent of the one-way peak hour traffic between Mission and Wellesley (2,000 VPH in 2010 according to the assignments) is composed of either trips to and from residential, industrial, or commercial areas in the northern suburbs, or by-pass trips to US 2 and US 395. From the assignments, this 60 percent is split into 36 percent bypass and 24 percent residential, industrial, etc. In other words, 36 percent of the traffic previously identified as having origins in the east, south, and west with the proportions given, is bypass traffic oriented to and from US 2 and US 395. This indicates that a significant advantage of the NSF will be to remove a large volume of through traffic destined for the outlying suburbs and beyond from the Hamilton /Nevada, Division, and other north/south arterial corridors in 2010.

Traffic accessing the NSF at Wellesley and Francis Avenues represents travel between residences in the vicinity and work places, shopping centers, or other service centers. Trips from or to the south most likely have origins and destinations at the shopping centers in the south hill area. Trips from or to the east will be oriented to industrial centers in the city of Millwood, the Trentwood area, or the east valley.

Based on current traffic growth and an existing total north/south traffic movement across north Spokane averaging 175,000 vehicles per day, the increase in peak hour traffic movements in one direction by the year 2010 will be approximately 3,800 vehicles per hour. To preserve present operating conditions on north/south arterials and allow this additional traffic to move without congestion would require three freeway lanes. By 2020, that requirement will be at least four freeway lanes. Note that this requirement to accommodate traffic increases if current congestion is not relieved. This rough approximation indicates that the NSF may result in maintaining the current amount of congestion in both 2010 and 2020, but will not relieve it.

Table 2-9 summarizes intersection analyses conducted in the vicinity of the proposed NSF and C/D system. The summary includes existing and new intersection levels of service for the build and no-build conditions in 2010 and 2020. Also included are locations in the vicinity of the proposed interchanges of the NSF and at selected critical intersections within the project study area.

An analysis of the data helps indicate the value of the NSF in restoring the arterial system to realistic levels of congestion. With the construction of the NSF in 2010 or 2020, reductions in extreme congestion will occur as travel demand is diverted from portions of the Spokane arterial network to the NSF. Significant improvements of intersection LOS are predicted to occur at the following locations as a result of the NSF:

Market at Francis	US 2 at Hawthorne	Nevada at Hawthorne
Market at Hawthorne	Division Wye US 2/US 395	Nevada at Wellesley
Market at Wellesley	Division at Trent	US 2 at Farwell

Table 2-7 depicts the number of intersections with LOS of E/F and how the NSF impacts the overall system.

	Number of Intersections with LOS E /F	*Total number of intersections (Max. 41)	Percent
Existing Condition	18	39	46%
2010			
No-Build	30	41	73%
With NSF	27	41	66%
2020			
No-Build	35	41	85%
With NSF	27	38	71%
Note number possible is based on the top 41 intersections in Table 2-9			

Intersection Level of Service E/F Percentage Comparisons
Table 2-7

Arterial analyses conducted on Division, Market/Freya, Francis, Wellesley, Mission, and Trent show an overall improvement will result in both 2010 and 2020 with construction of the NSF. The major benefit will be on north/south routes close to the proposed freeway corridor. The NSF does not remove substantial volumes of

traffic from Division Street, but will have a significant effect on the commuting arterials in the Market/Greene/Freya area. In the north/south direction, traffic diversions to the NSF are shown to vary westward, from about a 60 to 70 percent diversion from the existing Market/Greene, to less than 10 percent diversion from Division Street. On the other major arterials, increases and decreases in arterial LOS vary, depending on the arterial and the general freeway alignment (see Table 2-8). The majority of the traffic using the NSF will originate from or be destined to points south and east of the proposed I-90/NSF interchange.

Arterial		1990 Regional Base Network		2010 Regional Base Network		2010 Market/Greene Alignment		2010 Havana Alignment		2020 Regional Base Network		2020 Market/Greene Alignment		2020 Havana Alignment	
Division	Northbound	E	15	F	13	E	14	E	14	F	12	E	14	E	14
	Southbound	D	20	E	16	D	18	D	18	D	17	D	17	D	17
Market/Freya	Northbound	D	22	E	15	E	17	D	17	E	17	E	14	E	16
	Southbound	C	23	E	14	E	15	E	15	E	15	E	14	E	14
Francis	Eastbound	C	26	C	25	C	25	C	28	D	21	C	24	C	27
	Westbound	E	16	E	15	E	15	E	17	E	13	F	11	E	14
Wellesley	Eastbound	C	23	D	17	D	21	C	23	E	16	D	19	C	23
	Westbound	E	14	E	14	E	14	E	16	E	14	E	15	E	17
Mission	Eastbound	C	24	F	10	F	10	F	10	F	10	F	10	F	10
	Westbound	E	17	E	14	E	14	E	14	E	14	E	14	E	14
Trent	Eastbound	C	24	E	17	E	13	E	14	E	17	D	18	E	14
	Westbound	D	22	F	12	D	19	E	14	F	11	D	18	E	15

Average Speed (mph)

Arterial Level of Service Comparisons
Table 2-8

Washington State Department of Transportation	Existing Conditions			2010 Conditions: No Build			2010 Conditions: Market-Green North			2010 Conditions: Market-Green South			2010 Conditions: Havana North			2010 Conditions: Havana South			2020 Conditions: No Build			2020 Conditions: Market-Green South			2020 Conditions: Market-Green North			2020 Conditions: Havana South			2020 Conditions: Havana North		
INTERSECTION	LOS Summary	V/C Ratio	Vehicle Delay (Sec.)	LOS Summary	V/C Ratio	Vehicle Delay (Sec.)	LOS Summary	V/C Ratio	Vehicle Delay (Sec.)	LOS Summary	V/C Ratio	Vehicle Delay (Sec.)	LOS Summary	V/C Ratio	Vehicle Delay (Sec.)	LOS Summary	V/C Ratio	Vehicle Delay (Sec.)	LOS Summary	V/C Ratio	Vehicle Delay (Sec.)	LOS Summary	V/C Ratio	Vehicle Delay (Sec.)	LOS Summary	V/C Ratio	Vehicle Delay (Sec.)	LOS Summary	V/C Ratio	Vehicle Delay (Sec.)	LOS Summary	V/C Ratio	Vehicle Delay (Sec.)
Division/Farwell	E	0.87	48.1	F	1.28	103.1	F	0.94	72.2	E	0.93	43.2	F	0.95	72.1	E	0.82	40.6	F	1.50	108.2	F	0.92	70.4	F	1.29	129.8	E	0.91	59.3	F	1.24	120.7
Division/Hawthorne	F	0.86	44.7	F	1.28	117.0	F	0.90	65.3	F	0.96	84.0	F	0.95	94.6	F	1.06	98.2	F	1.32	101.0	F	1.17	100.2	F	1.00	93.6	F	1.17	101.3	F	0.94	67.6
Division/Country Homes	E	0.95	55.6	F	1.11	114.5	F	0.96	69.8	F	1.15	109.9	F	1.03	105.4	F	1.15	109.3	F	1.17	108.0	F	1.21	110.0	F	1.18	111.7	F	1.23	110.3	F	1.16	109.5
Division/SR 2	C			E	0.90	46.1	D			D			D			D			F	0.95	65.8	D			D			D			D		
SR 2/Hawthorne	D			F	0.95	73.1	D			F	1.10	108.5	C			F	1.16	119.1	F	1.09	103.8	F	1.22	133.9	C			F	1.20	120.7	E		
Nevada/Hawthorne	B			C			B			B			B			B			E	0.83	44.1	B			B			B			B		
Market/Cox	F	1.33	84.0	F	3.12	150.0	F	1.27	100.0	F	1.57	133.9	F	1.14	84.1	F	1.26	112.2	F	4.73	182.7	F	1.68	126.6	F	0.98	79.6	F	1.59	117.2	F	1.11	92.0
Market/Hawthorne	D*			B			A			A			A			A			B			A			B			A			A		
Nevada/SR 2	E*			B			B			n/a			B			n/a			E	0.84	54.1	n/a			B			n/a			B		
Newport Highway/Farwell	C			F	0.98	74.2	E	0.94	49.7	D			E	0.91	50.6	C			F	1.31	103.1	F	1.23	128.0	F	1.22	90.0	E	1.26	128.7	F	1.23	105.1
Division/Francis	F	1.18	124.2	F	1.22	107.8	F	1.36	111.6	F	1.36	110.1	F	1.44	109.5	F	1.36	109.7	F	1.31	115.1	F	1.38	111.1	F	1.40	111.4	F	1.41	111.2	F	1.43	111.2
Division/Wellesley	F	1.32	112.3	F	1.55	124.9	F	1.71	126.4	F	1.75	126.6	F	1.77	127.0	F	1.77	127.1	F	1.73	126.0	F	1.82	127.6	F	1.83	127.5	F	1.87	128.1	F	1.86	127.4
Division/N Foothills	F	0.97	87.4	E	0.95	57.8	E	0.94	53.9	E	0.95	54.6	E	0.93	49.5	E	0.95	46.7	F	1.02	88.4	E	0.95	48.5	E	0.97	50.2	E	0.95	40.1	E	0.95	53.6
Ruby/N Foothills	n/a			F	1.14	123.2	F	1.15	122.6	F	1.15	120.1	F	1.02	69.4	F	1.21	132.8	F	1.25	134.0	F	0.98	68.8	F	0.99	69.7	F	1.12	90.5	F	1.21	127.1
Division/Mission	F	1.18	95.6	D			D			D			D			C			D			D			D			D			D		
Ruby/Mission	n/a			F	1.90	137.0	F	1.65	135.8	F	1.70	137.0	F	1.74	136.8	F	1.70	136.8	F	1.94	136.6	F	1.67	136.5	F	1.72	136.5	F	1.73	135.5	F	1.78	135.5
Division NB/Trent	C			F	1.03	104.2	E	0.93	40.8	E	0.93	43.1	E	0.94	53.8	F	0.99	87.0	F	1.14	132.9	E	0.96	58.1	E	0.96	52.1	F	1.00	90.8	F	1.00	94.6
Browne/Spokane Falls	B			C			C			C			D			D			E			D			C			D			D		
Division NB/Sprague	F	0.97	63.8	F	2.61	122.4	F	1.29	87.0	F	1.26	87.9	F	1.28	88.2	F	1.34	88.8	F	1.52	131.1	F	1.40	91.2	F	1.41	91.4	F	1.39	90.5	F	1.43	91.9
Browne/Sprague	D			F	1.63	92.9	F	1.45	108.1	F	1.46	106.3	F	1.48	106.4	F	1.47	108.2	F	1.59	128.9	F	1.44	133.9	F	1.45	136.8	F	1.51	124.7	F	1.52	142.4
Division NB/2nd	C			D			D			C			D			D			F	0.87	64.5	F	0.84	69.8	F	0.84	68.0	F	0.84	61.4	E	0.83	59.8
Browne/2nd	C			F	1.29	82.0	F	1.21	81.7	F	1.17	80.2	F	1.28	81.1	F	1.28	81.5	F	1.37	85.8	F	1.38	90.8	F	1.39	90.8	F	1.41	89.1	F	1.40	87.8
Division NB/3rd	D			F	1.05	97.0	F	1.10	117.9	F	1.10	121.6	F	1.09	116.2	F	1.10	116.8	F	1.20	135.9	F	1.19	134.9	F	1.19	135.2	F	1.18	135.4	F	1.16	134.3
Browne/3rd	C			F	1.03	68.6	F	1.05	70.3	F	1.04	69.5	F	1.06	70.2	F	1.06	70.8	F	1.14	74.4	F	1.20	77.2	F	1.21	78.0	F	1.21	78.4	F	1.24	79.8
Scott/2nd	D			B			B			B			B			B			B			C			C			B			B		
Scott/3rd	B			B			B			B			B			B			B			C			C			B			B		
Hamilton/Trent	D			F	1.06	98.1	F	1.27	111.9	F	1.24	114.9	F	1.21	115.4	F	1.12	101.5	F	1.23	102.8	F	1.04	94.1	F	1.05	101.0	F	1.09	106.5	F	1.09	107.3
Hamilton/Mission	E	1.05	54.4	F	1.64	88.8	F	1.34	89.4	F	1.39	90.5	F	1.38	88.3	F	1.36	87.5	F	1.83	92.5	E	1.57	55.0	F	2.00	77.6	F	1.63	89.7	F	1.51	92.5
Hamilton/Illinois	E	0.98	45.2	F	1.47	68.6	F	1.47	62.7	F	1.42	62.0	F	1.50	82.2	F	1.53	62.6	F	1.62	75.6	F	1.41	63.3	F	1.43	63.1	F	1.95	69.6	F	1.53	63.5
Nevada/Wellesley	F	0.91	60.3	F	1.20	81.0	D			E	0.88	40.7	D			D			F	1.14	89.0	D			E	0.92	41.6	D			E	0.89	40.5
Nevada/Francis	E	0.80	42.9	E	0.94	55.3	E	0.90	53.9	E	0.87	46.6	E	0.87	46.5	E	0.88	48.1	F	1.01	81.6	F	0.98	75.6	F	1.00	84.5	E	0.92	59.2	F	0.95	63.3
Freya/Hartson	D			E	1.21	58.1	F	1.21	82.4	F	1.21	81.5	F	1.16	65.9	F	1.24	83.5	F	1.28	65.3	F	1.44	82.7	F	1.50	85.7	F	1.44	82.8	F	1.50	86.5
Freya/3rd	E	0.93	42.9	C			E	1.12	41.2	E	1.10	41.1	E	1.10	41.1	E	1.09	40.8	D			n/a			n/a			n/a			n/a		
Freya/2nd	C			E	1.18	84.6	E	1.26	105.9	E	1.09	83.4	E	1.07	96.6	E	1.06	85.5	F	1.32	90.0	n/a			n/a			n/a			n/a		
Freya/Sprague	C			F	1.42	93.7	F	1.37	110.3	F	1.38	112.4	F	1.66	106.3	F	1.36	124.1	F	1.67	109.2	F	1.35	110.2	F	1.43	121.1	F	1.51	139.2	F	1.83	112.3
Freya/Broadway	F	1.37	72.8	F	2.03	113.4	F	1.55	91.5	F	1.64	92.0	F	2.42	131.1	F	2.07	96.3	F	2.43	116.2	F	1.36	92.0	F	1.45	92.7	F	2.01	96.6	F	2.44	118.5
Freya/Trent	F	1.40	102.2	F	1.48	114.3	F	1.59	114.6	F	1.61	114.5	F	1.88	124.5	F	1.83	125.5	F	1.56	113.3	F	1.34	122.2	F	1.39	116.0	F	1.58	120.3	F	1.64	119.8
Freya/Mission	F	1.29	106.4	F	1.44	154.6	F	1.30	132.1	F	1.28	119.6	F	1.03	106.8	F	0.99	86.6	F	1.59	156.4	F	1.36	131.8	F	1.43	133.7	F	1.10	99.3	F	1.30	118.1
Haven/Wellesley	C			A			B			B			A			A			A			B			C			B			B		
Market/Wellesley	B			B			B			B			B			B			F	4.85	100.5	B			B			B			B		
Market/Francis	C			E	0.90	51.5	D			D			B			C			F	0.99	72.6	D			D			D			D		
CD EB/Thor	n/a			n/a			n/a			n/a			n/a			n/a			n/a			B			B			B			B		
CD WB/Thor	n/a			n/a			n/a			n/a			n/a			n/a			n/a			E			E			E			E		
NSF NB/Trent	n/a			n/a			B			B			D			D			n/a			B			B			E			D		
NSF SB/Trent	n/a			n/a			C			C			B			B			n/a			B	0.95	46.1	B	0.95	46.1	D	0.95	46.1	C	0.95	46.1
NSF SB/Wellesley	n/a			n/a			B			B			A			B			n/a			C			C			A	0.90	42.0	A		
NSF NB/Wellesley	n/a			n/a			C			D			B			B			n/a			D			D			B			B		
NSF SB/Francis	n/a			n/a			B			C			B			B			n/a			C			B			B			A		
NSF NB/Francis	n/a			n/a			D			E			C			C			n/a			B			B			D			C		
NSF SB/Stoneman	n/a			n/a			n/a			n/a			n/a			n/a			n/a			n/a			B			n/a			B		
NSF NB/Stoneman	n/a			n/a			n/a			n/a	0.89	40.2	n/a			n/a			n/a			n/a			D			n/a			B		
NSF SB/SR 2	n/a			n/a			n/a			C			n/a			C			n/a			D			n/a			D			n/a		
NSF NB/SR 2	n/a			n/a			n/a			B			n/a			B			n/a			B			n/a			B			n/a		

* Unsignalized - LOS for worst leg reported

Intersection LOS Conditions Existing and Future

Table 2-9

Washington State Department of Transportation		Projected 2020 No Build			TSM ALTERNATIVE		MASS TRANSIT ALTERNATIVE		MASS TRANSIT & TS COMBINED		BUILD NEW FACILITY ALTERNATIVE		NEW FACILITY, MASS TRANSIT AND TSM COMBINED	
INTERSECTION	LOS Summary	V/C Ratio	Vehicle Delay (Sec.)	Intersection Capacity	Intersection Volume	Est. Decrease in Volume	New Intersection Volume	New V/C Ratio	Est. Decrease in Volume	New Intersection Volume	New V/C Ratio	Est. Decrease in Volume	New Intersection Volume	New V/C Ratio	Est. Decrease in Volume	New Intersection Volume	New V/C Ratio
Division/Farwell	F	1.50	108.2	4251	6377	395	5982	1.41	261	6116	1.44	395	5982	1.41	1272	5105	1.20	1667	4710	1.11
Division/Hawthorn	F	1.32	101.0	3586	4734	294	4440	1.24	194	4540	1.27	294	4440	1.24	809	3925	1.09	1103	3631	1.01
Division/Country H	F	1.17	108.0	4146	4851	301	4550	1.10	199	4652	1.12	301	4550	1.10	112	4739	1.14	413	4438	1.07
Division/SR 2 *	F	0.95	65.8	4562	4334	269	4065	0.89	321	4013	0.88	269	4065	0.89	632	3702	0.81	901	3433	0.75
SR 2/Hawthorne	F	1.09	103.8	4453	4854	301	4553	1.02	199	4655	1.05	301	4553	1.02	944	3910	0.88	1245	3609	0.81
Nevada/Hawthorn	F	0.83	44.1	4606	3823	237	3586	0.78	157	3666	0.80	237	3586	0.78	1467	2356	0.51	1704	2119	0.46
Market/Coxe	F	1.24	182.7	3360	4179	259	3920	1.17	171	4008	1.19	259	3920	1.17	1982	2197	0.65	2241	1938	0.58
Nevada/SR 2	F	0.84	54.1	3756	3155	196	2959	0.79	129	3026	0.81	196	2959	0.79	703	2452	0.65	899	2256	0.60
Newport Highway/	F	1.31	103.1	3592	4705	292	4413	1.23	193	4512	1.26	292	4413	1.23	-143	4848	1.35	149	4556	1.27
Division/Francis *	F	1.31	115.1	5642	7391	458	6933	1.23	474	6917	1.23	458	6933	1.23	-48	7439	1.32	410	6981	1.24
Division/Wellesley	F	1.73	126.0	4849	8388	520	7868	1.62	606	7782	1.60	520	7868	1.62	-302	8690	1.79	218	8170	1.68
Division/N. Foothill	F	1.02	88.4	3898	3976	247	3729	0.96	163	3813	0.98	247	3729	0.96	174	3802	0.98	421	3555	0.91
Ruby/N. Foothills *	F	1.25	134.0	5016	6270	389	5881	1.17	539	5731	1.14	389	5881	1.17	689	5581	1.11	1078	5192	1.04
Ruby/Mission *	F	1.94	136.6	3809	7389	458	6931	1.82	568	6821	1.79	458	6931	1.82	947	6442	1.69	1405	5984	1.57
Division NB/Trent	F	1.14	132.9	4119	4696	291	4405	1.07	193	4503	1.09	291	4405	1.07	485	4211	1.02	776	3920	0.95
Division NB/Sprag	F	1.52	131.1	3429	5212	323	4889	1.43	214	4998	1.46	323	4889	1.43	541	4671	1.36	864	4348	1.27
Browne/Sprague	F	1.59	128.9	3575	5684	352	5332	1.49	233	5451	1.52	352	5332	1.49	348	5336	1.49	700	4984	1.39
Division NB/2nd	F	0.87	64.5	4574	3979	247	3732	0.82	163	3816	0.83	247	3732	0.82	369	3610	0.79	616	3363	0.74
Browne/2nd	F	1.37	85.8	3163	4333	269	4064	1.28	178	4155	1.31	269	4064	1.28	143	4190	1.32	412	3921	1.24
Division NB/3rd	F	1.20	135.9	3437	4124	256	3868	1.13	169	3955	1.15	256	3868	1.13	49	4075	1.19	305	3819	1.11
Browne/3rd	F	1.14	74.4	3727	4249	263	3986	1.07	174	4075	1.09	263	3986	1.07	-63	4312	1.16	200	4049	1.09
Hamilton/Trent	F	1.23	102.8	5554	6832	424	6408	1.15	280	6552	1.18	424	6408	1.15	1279	5553	1.00	1703	5129	0.92
Hamilton/Mission	F	1.83	92.5	4550	8327	516	7811	1.72	341	7986	1.76	516	7811	1.72	1650	6677	1.47	2166	6161	1.35
Hamilton/Illinois	F	1.62	75.6	3594	5822	361	5461	1.52	239	5583	1.55	361	5461	1.52	1705	4117	1.15	2066	3756	1.05
Nevada/Wellesley	F	1.14	89.0	4470	5096	316	4780	1.07	209	4887	1.09	316	4780	1.07	889	4207	0.94	1205	3891	0.87
Nevada/Francis	F	1.01	81.6	4640	4686	291	4395	0.95	192	4494	0.97	291	4395	0.95	440	4246	0.92	731	3955	0.85
Freya/Hartson	F	1.28	65.3	3773	4829	299	4530	1.20	198	4631	1.23	299	4530	1.20	-184	5013	1.33	115	4714	1.25
Freya/2nd	F	1.32	90.0	3390	4475	277	4198	1.24	183	4292	1.27	277	4198	1.24			0.00	277	4198	1.24
Freya/Sprague	F	1.67	109.2	3467	5790	359	5431	1.57	237	5553	1.60	359	5431	1.57	154	5636	1.63	513	5277	1.52
Freya/Broadway	F	2.43	116.2	1754	4263	264	3999	2.28	175	4088	2.33	264	3999	2.28	126	4137	2.36	390	3873	2.21
Freya/Trent	F	1.56	113.3	4779	7456	462	6994	1.46	306	7150	1.50	462	6994	1.46	653	6803	1.42	1115	6341	1.33
Freya/Mission	F	1.59	156.4	5188	8249	511	7738	1.49	338	7911	1.52	511	7738	1.49	2071	6178	1.19	2582	5667	1.09
Market/Wellesley	F	1.01	100.5	2520	2549	158	2391	0.95	105	2444	0.97	158	2391	0.95	-418	2967	1.18	-260	2809	1.11
Market/Francis	F	0.99	72.6	3742	3705	230	3475	0.93	152	3553	0.95	230	3475	0.93	242	3463	0.93	472	3233	0.86
V/C Average		**1.32**				**1.24**		**1.26**			**1.24**			**1.15**			**1.10**			

Note: * HOV lane on Division would impact only these intersections. Reduction of volume would apply to only the PM Peak Hour, northbound and southbound legs of the intersections.

Capacity Demand Projections
Table 2-10

Summary of Alternative Analysis on Demand/Capacity

Table 2-10 outlines and compares all the alternatives as to the capacity increase or demand reduction each provides in the design year 2020. This chart keys on the operation of the intersections within the project area. An improvement in intersection operation equates to an overall improvement in the arterial link connected to that intersection.

For purposes of comparison, the overall average V/C ratios of the intersections are shown by alternative. Mass Transit, with the sole component of HOV lanes on Division Street, does little to improve the system within the projected study area. Mass Transit combined with the TSM alternative also is not nearly as effective as the New Facility. Although very important, the effect the alternatives have on traffic demand and capacity is only one facet of the overall effectiveness of each in fulfilling the project purpose and need. The following discussion addresses the other facets.

Alternatives Considered But Rejected

This section examines why some alternatives have been dropped from further consideration by analyzing how each alternative fails to meet the established objectives of the project purpose.

Alternative 2 — Transportation System Management (TSM)

Reduce Congestion as Much as Practicable in the Overall Transportation System in Accommodating or Reducing Trips Projected for the Design Year 2020

Statistically, this alternative ~~meets~~ does not meet the project area capacity/demand requirements nearly as well as a build alternative (see Table 2-10). ~~However, the~~ The effectiveness of this alternative depends primarily on the traveling public's acceptance of other transportation modes. The issue truly being faced under this alternative is individual travel behavior and, for that reason, whether the identified assumptions prove true is unknown. The findings in the HCT study regarding travel behavior best outline the uncertainty of the effectiveness of this alternative.

TSM activities similar to the city of Spokane's proposed commute trip reduction program have been in place in a number of large cities throughout the United States for several years, with mixed results. The key to the program's success is the type of strategies used. In some cities, large employers have encouraged ride-sharing to the extent of purchasing vans and furnishing drivers. In other cities, centralized ride-sharing programs, including computerized ride-matching, have been established with full-time staffing. The underlying thread common to the successful programs is a variety of alternatives and complementary economic incentives to the commuter, all directed at changing commuter behavior.

A primary goal of this project is to improve mobility through this region. Relieving congestion is a facet of improving mobility. TSM programs have been undertaken in urban areas where the current degree of congestion on streets and highways is